



1 - MATERIAL IDENTIFICATION

Material Name: Qualisorb #628 and #715

Supplier / Manufacturer Identification: Eagle-Picher Minerals, Inc.
9785 Gateway Drive, Suite 1000
Reno, Nevada 89511
Phone Number: (775) 824-7600

Emergency Telephone Number: (775) 824-7600

2 - COMPOSITION / INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>Wt %</u>	<u>CAS #</u>
Diatomaceous earth calcined	100%	91053-39-3
Crystalline silica, Quartz	< 1%	14808-60-7
Crystalline silica, Cristobalite	< 1%	14464-46-1

3 - HAZARDS IDENTIFICATION

This product consists of calcined diatomaceous earth and small quantities of crystalline silica (less than 1%). Prolonged breathing of dust containing crystalline silica may cause lung damage, and on rare occasions be fatal. Avoid breathing dust (see Section 11 for additional information).

4 - FIRST AID MEASURES

- 4.1 Inhalation:** Remove to fresh air.
- 4.2 Ingestion:** Short-term exposure not considered harmful. Drink water to reduce bulk and drying effects.
- 4.3 Eyes:** Wash with generous quantities of water. Consult physician if irritation persists.
- 4.4 Skin:** None necessary. If dryness occurs, use moisture renewing lotions.

5 - FIRE FIGHTING MEASURES

5.1 Flashpoint and Method:	Not applicable	Non-Flammable
5.2 Flammable Limits:	Not applicable	Non-Flammable
5.3 Autoignition Temperature:	Not applicable	Non-Flammable
5.4 Flammable Class:	Not applicable	Non-Flammable
5.5 Flame Propagation or burning rate of solids:	Not applicable	Non-Flammable
5.6 General Hazard:	Not applicable	Non-Flammable
5.7 Extinguishing Media:	None	Non-Flammable
5.8 Hazardous Combustion Products:	Not applicable	Non-Flammable
5.9 Fire Fighting Procedures:	Not applicable	Non-Flammable
5.10 Fire Fighting Equipment:	Not applicable	Non-Flammable
5.11 Sensitive to Static Discharge:	Not applicable	Non-Flammable
5.12 Sensitivity to Impact:	Not applicable	Non-Flammable

6 - ACCIDENTIAL RELEASE MEASURES**6.1 Environmental Precautions:**

Diatomaceous earth is a non-toxic, non-biodegradable mineral. Waste generated from this product would only be considered hazardous when mixed with a substance that would be considered hazardous.

6.2 General Procedures:

No special procedures necessary

6.3 Release Notes:

No special procedures necessary

7 - HANDLING & STORAGE**7.1 Handling:**

Use appropriate personal protective equipment as specified in Section 8. Handle and use in a manner consistent with good industrial practice.

7.2 Storage:

Store unopened containers in a dry place.

8 - EXPOSURE CONTROLS/ PERSONAL PROTECTION**8.1 Engineering Controls:**

Control dust to within the ACGIH-TLV with local ventilation.

8.2 Occupational exposure limits:

EXPOSURE LIMITS TABLE
ACGIH TLV

Diatomaceous earth < 1% crystalline silica

10 mg / m³ (total dust)

3 mg / m³ (respirable dust)

8.3 Personal Protective Equipment:

Respiratory: Respirators fitted with filters certified to NIOSH (US) standard 42CFR84 under series N95 should be worn when airborne dust is present.

Skin: Not normally necessary

Eyes & Face: Not normally necessary

9 - PHYSICAL AND CHEMICAL PROPERTIES**9.1 Physical State:**

Solid

9.2 Odor:

Odorless

9.3 Appearance:

Buff to off-white granular

9.4 pH (10% slurry):

7

9.5 Color:

Buff to off-white

9.6 Boiling point:

Not applicable

9.7 Melting point:

Not applicable

9.8 Oxidizing properties:

Not applicable

9.9 Vapor pressure:

Not applicable

9.10 Density:

2.2 (specific gravity)

9.11 Solubility in water:

< 2%

9.12 Coefficient oil/water:

Not applicable

9.13 Other data:

None

10 - STABILITY and REACTIVITY

10.1 Conditions to avoid:	Hydrofluoric acid, Hydrogenated Vegetable Oils
10.2 Stability:	Stable
10.3 Hazardous decomposition products:	Not applicable
10.4 Other considerations:	None

11 - TOXICOLOGICAL INFORMATION

11.1 Dermal LD₅₀:	Not available
11.2 Oral LD₅₀:	Not available
11.3 Inhalation LC₅₀:	Not available
11.4 Eye effects:	May cause significant irritation to the eye
11.5 Skin effects:	May cause dryness
11.6 Sensitization:	Not available
11.7 Chronic:	This product contains small quantities of crystalline silica. In a 1997 Monograph (Volume 68, "Silica, some Silicates, Coal Dust and Para Aramid Fibrils") the International Agency for research on Cancer (IARC) reviewed various mineral products containing crystalline silica. In its evaluation, IARC noted that "There is inadequate evidence in experimental animals for the carcinogenicity of uncalcined diatomaceous earth". It further noted that "Amorphous silica is not classifiable as to its carcinogenicity to humans (Group 3)". Natural, uncalcined diatomaceous earth which predominantly amorphous silica and may contain trace quantities of crystalline silica, is considered to be Group 3, not classifiable as to its carcinogenicity (not WHMIS regulated).
Calcined diatomaceous earth, such as Floor Dry and Celatom MP grades, which do not contain crystalline silica at levels above that of the natural grades are considered "toxicologically indistinguishable" from the natural grades and do not meet the criterion for controlled products under S.54 of the Controlled Products Regulations.	

12 - ECOLOGICAL INFORMATION

12.1 Environmental Data:	Insoluble mineral product. Will not have adverse impact on waterways.
12.2 Ecotoxicological information:	Not applicable
12.3 Chemical fate information:	Not applicable

13 DISPOSAL CONSIDERATIONS

13.1 Disposal method:	Use solid waste disposal common to landfill operations. Not considered hazardous waste.
13.2 Product disposal:	Avoid creating dust.
13.3 Empty container:	Avoid creating dust.
13.4 General comments:	None

14 - TRANSPORT INFORMATION**14.1 DOT (Department of Transportation):**

- | | |
|-------------------------|--|
| A. Proper shipping name | Not restricted by DOT |
| B. Technical name | Diatomaceous earth |
| C. Label | Use product identifier (trade name) with Technical name below. |

14.2 Canada Transport of Dangerous Goods:

- | | |
|-------------------------|--|
| A. Proper shipping name | Not restricted |
| B. Technical name | Diatomaceous earth |
| C. Label | Use product identifier (trade name) with Technical name below. |

15 - REGULATORY INFORMATION

- | | |
|--|---|
| 15.1 Canada – WHMIS | Hazard symbol and classification – none required, not WHMIS regulated |
| 15.2 Canada – Ingredient Disclosure List | This product does not have any ingredient(s) on the Ingredient Disclosure List. |
| 15.3 Canada – Environmental Protection Act | Product listed on Domestic Substance List. |

16 - OTHER INFORMATION

NFPA CODES: Fire: 0 Health: 1 Reactivity: 0

HMIS CODES: Fire: 0 Health: * Reactivity: 0 Protection: E

* Refer to data on Material Safety Data Sheet

Preparation Date of MSDS

Prepared by: Patrick T. Flynn, Director - Research

Telephone Number: (775) 824-7650

Date: November 1, 2001

1 - IDENTIFICATION DE LA MATIÈRE:**Nom Identification de la Matière:****Appellation Commerciale:**

Qualisorb #628 and #715

Nom du Fournisseur & Nom du Fabricant:Eagle-Picher Minerals, Inc.
9785 Gateway Drive, Suite 1000
Reno, Nevada 89511
Phone Number: (775) 824-7600**De Téléphone D'Urgence:**

(775) 824-7600

2 - INGRÉDIENTS DANGEREUX DE LA MATIÈRE**Nom de Substance Chimique****Poids %****CAS #**

Terre à diatomées calcinée

100%

91053-39-3

Silice cristalline, quartz

< 1%

14808-60-7

Silice crytsalline, cristobalite

< 1%

14464-46-1

3 - DÉFINITION DES DANGERS

Ce produit contient de la terre à diatomées calcinée et de petites quantités de silice cristalline (moins de 1%). L'inhalation prolongée de poussières contenant de la silice cristalline peut entraîner des dommages pulmonaires et, dans quelques cas rares, entraîner la mort. Éviter de respirer ces poussières. (voir la section 11 pour obtenir des renseignements supplémentaires).

4 - PREMIERS SOINS**4.1 Inhalation:**

Amener la personne incommodée à l'air frais

4.2 Ingestion:

L'exposition de courte durée n'est pas considérée dangereuse – boire de l'eau pour réduire les effets généraux et l'assèchement

4.3 Yeux:

Laver à grande eau – consulter un médecin si l'irritation persiste

4.4 Peau:

Aucune mesure nécessaire – utiliser une lotion hydratante en cas d'assèchement de la peau

5- RISQUES D'INCENDIE ET D'EXPLOSION**5.1 Point D'éclair et Méthode:**

Non Applicable

5.2 Limites D'inflammabilité:

Non Applicable

5.3 Température D'autoignition:

Non Applicable

5.4 Inflammabilités:

Ininflammable

5.5 Propagation Des Flammes ou Taux Combustion Des Solides:

Non Applicable

5.6 Danger Général:

Non Applicable

5.7 Moyens D'extinction:

Non Applicable

5.8 Produit De Combustion Dangereux:

Non Applicable

5.9 Procédures De Lutte Contre Le Feu:

Aucun-Ininflammable

5.10 Équipement de Lutte Contre Le Feu:

Aucun-ininflammable

5.11 Sensibilité Une Décharge Electro-Statique: Non Applicable

5.12 Sensibilité Aux Impacts: Non Applicable

6 - MESURES EN CAS DE FUITE ACCIDENTELLE

6.1 Protection Au Niveau De L'environnement: La Terre à diatomée est un minéral non toxique et non biodégradable. Les déchets générés à partir de ce produit ne peuvent être considérés dangereux que s'ils sont mélangés avec une substance considérée dangereuse

6.2 Procédures Générales: N'est pas normalement nécessaire

6.3 Avis de Déversement: N'est pas normalement nécessaire

7 - MANIPULATION ET ENTREPOSAGE

7.1 Manipulation: Utiliser l'équipement de protection approprié, conformément aux directives de la section 8. Manipuler et utiliser le produit conformément aux bonnes pratiques industrielles

7.2 Entreposage: Entreprer les contenants non ouverts dans un endroit sec

8 - CONTRÔLES D'EXPOSITION / PROTECTION PERSONNELLE

8.1 Contrôles D'ingénierie: À l'aide d'un système de ventilation locale, contrôler la concentration de poussières afin qu'elle reste inférieure à la VLE de l'ACGIH

8.2 Limites D'exposition:

Terre à diatomées <1% silice cristalline

Limites D'exposition
VLE de l'ACGIH
10 mg/m³ (total dust)
3 mg/m³ (respirable dust)

8.3 Équipement De Protection Individuelle:

Protection Respiratoire: Un appareil respiratoire équipé d'un filtre certifié conforme à la norme NIOSH (État-Unis) 42CFR84, série N95, doit être utilisé lorsque des poussières aériennes sont présentes

Peau: N'est pas normalement nécessaire

Yeux et Visage: N'est pas normalement nécessaire

9 – PROPRIÉTÉS PHYSIQUES ET CHIMIQUES

9.1 État Physique: Solide

9.2 Odeur: Inodore

9.3 Apparence: Granule

9.4 pH: 7

9.5 Couleur: Chamois ou blanc cesse

9.6 Point D'ébullition: Non Applicable

9.7 Point de Fusion: Non Applicable

9.8 Oxidizing properties: Non Applicable

9.9 Pression de la Vapeur:	Non Applicable
9.10 Densité:	2.2
9.11 Solubilité Dans L'eau:	< 2%
9.12 Coeff. De Partage Huile / Eau:	Non Applicable
9.13 Autre Données:	Non

10 - STABILITÉ ET RÉACTIVITÉ

10.1 Conditions à Éviter:	Non Applicable
10.2 Stabilité Chimique:	Le Produit est stable
10.3 Produits De Décomposition Nocifs:	Non Applicable
10.4 Autre Considérations:	Non Applicable
10.5 Matériaux Incompatibles:	L'acide Hydrofluorique

11 - TOXICOLOGIQUES DE LA MATIÈRE

Ce Produit contient de petites quantités de silice cristalline. Dans une monographie de 1997 (Volume 68, "La silice, certains silicates, la poussière de charbon et les fibrilles para-aramides"), le Centre international de recherche sur le cancer (CIRC) a examiné divers produits minéraux contenant de la silice cristalline. Dans son évaluation, le CIRC a noté "qu'il n' existait pas de preuve convaincante après les études expérimentales sur l'animal permettant d'affirmer qu'il existait un risque cancérigène de la terre à diatomées non calcinée" Le CIRC notait également que "a silice amorphe ne pouvait pas être classée, dans les cancérigènes pour l'homme (groupe 3)". La terre à diatomées naturelle non calcinée, contenant en majeure partie de la silice amorphe et pouvant contenir également de petite quantités de silice cristalline, est considérée comme appartenant au groupe 3, c'est-à-dire sans classification de cancérogénicité (non réglementée par SIMDUT).

La terre à diatomées calcinée, telle que celle contenue dans les matériaux de nivelage Floor Dry et Celatom MP, ne contenant pas de silice cristalline à des niveaux supérieurs à ceux de la terre naturelle, est considérée "toxicologiquement indistinguable" des terres de nivelage naturelles et ne répond pas aux critères des produits contrôlés des règlements S.54 des produits contrôlés.

12 - INFORMATIONS ÉCOLOGIQUES

12.1 Données Sur L'environnement:	Produit minéral insoluble. N'a pas d'effet nocif sur les cours d'eau
12.2 Information Ecotoxicologique:	Non Applicable
12.3 Information Sur L'évolution Chimique:	Non Applicable

13 – CONSIDÉRATIONS POUR L'ÉLIMINATION DES DÉCHETS

13.1 Méthode D'élimination:	Se débarrasser des déchets solides de la manière habituelle dans les dépotoirs. N'est pas considéré comme un déchet dangereux
13.2 Élimination Du produit:	Éviter de créer de la poussière
13.3 Contenant Vide:	Éviter de créer de la poussière
13.4 Commentaires Généraux:	Non

14 - INFORMATION SUR LE TRANSPORT**14.1 DOT (Département des Transports US):**

- | | |
|--------------------------|--|
| A. Nom pour le transport | Non restreint par le DOT (Dept. of Transportation) |
| B. Nom Technique | Terre à diatomées |
| C. Étiquette | Utiliser un identificateur de produit (nom de marque) avec le nom technique en-dessous |

14.2 Canada Transport of Dangerous Goods:

- | | |
|--------------------------|--|
| A. Nom pour le transport | Non restreint |
| B. Nom Technique | Terre à diatomées |
| C. Étiquette | Utiliser un identificateur de produit (nom de marque) avec le nom technique en-dessous |

15 – INFORMATIONS CONCERNANT LA ÉLIMINATION

15.1 Canada – SIMDUT: Symbolisation et classification des dangers. Non requise, produit non réglementé par le SIMDUT

15.2 Canada – Liste de divulgation des ingrédients: Ce produit ne contient aucun ingrédient de la liste de divulgation des ingrédients du SIMDUT

15.3 Canada – Loi sur la protection de l'environnement: Produit mentionné sur la Liste intérieure des substances.

16 – NOTES ADDITIONNELLES

Codes Pour le NFPA: Feu: 0 Santé: 1 Réactivité: 0

Codes Pour le HMIS: Feu: 0 Santé: * Réactivité: 0 Protection: E

* Examen des Risques du Produit par le Fiche Signalétique

FICHE SIGNALÉTIQUE

Préparé Par: Patrick T. Flynn, Director of Government Affairs

No de Téléphone: (775) 824-7650

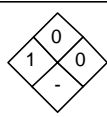
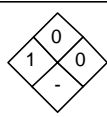
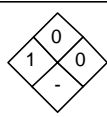
Date: July 1, 2001

MATERIAL SAFETY DATA SHEET

 **EAGLE – PICHER MINERALS, INC.**

DATE ISSUED: November 18, 1985	DATE REVISED: July 1, 2001	REVISION NO: 8
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SECTION I: MATERIAL IDENTIFICATION AND USE

MATERIAL NAME: Floor Dry, Super Fine, Celatom MP grades		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; vertical-align: middle;">NFPA</td> <td style="text-align: center;">  </td> <td style="font-size: small;"> 4-Extreme 3-High 2-Moderate 1-Slight 0-Insignificant </td> </tr> </table>	NFPA		4-Extreme 3-High 2-Moderate 1-Slight 0-Insignificant
NFPA			4-Extreme 3-High 2-Moderate 1-Slight 0-Insignificant		
MANUFACTURER'S NAME: Eagle-Picher Minerals, Inc.					
STREET ADDRESS: 9785 Gateway Drive, Suite 1000					
CITY: Reno	STATE: Nevada	ZIP: 89511			
EMERGENCY TELEPHONE NO: (775) 824-7600	CHEMICAL FORMULA: SiO ₂				
CHEMICAL NAME: Diatomaceous Earth, Calcined	TRADE NAME: Floor Dry, Celatom				
CHEMICAL FAMILY: Silica	MATERIAL USE: Industrial Absorbent				
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; vertical-align: middle;">HMIS</td> <td style="font-size: x-small;"> * Health 0 Flammability 0 Reactivity E Protective Equipment </td> </tr> </table>	HMIS	* Health 0 Flammability 0 Reactivity E Protective Equipment	
HMIS	* Health 0 Flammability 0 Reactivity E Protective Equipment				
* REFER TO DATA ON MSDS					

SECTION II: HAZARDOUS INGREDIENTS OF MATERIAL

INGREDIENT IDENTIFICATION	APPROXIMATE CONCENTRATION %	C.A.S. NUMBERS	OSHA PEL [ACGIH TLV]	LD50/ LC 50 SPECIES AND ROUTE
Diatomaceous Earth, Calcined	100%	91053-39-3	See below	Not available
Crystalline Silica (Cristobalite)	< 1%	14464-46-1	0.05 mg/m ³ [0.05 mg/m ³]	Not available
Crystalline Silica (Quartz)	< 1%	14808-60-7	0.10 mg/m ³ [0.10 mg/m ³]	Not available

For sampling silica dusts refer to NIOSH Analytical Method 7500 or OSHA method ID 142

SECTION III: PHYSICAL DATA FOR MATERIAL

PHYSICAL STATE: Solid	ODOR AND APPEARANCE: Odorless, granular product, buff to off-white	SPECIFIC GRAVITY: 2.2	BOILING POINT: Not Applicable
VAPOR PRESSURE (MM): Not Applicable	VAPOR DENSITY: Not applicable	pH: 7 (10% Slurry)	SOLUBILITY/WATER: < 2%
FREEZING POINT: Not Applicable			

SECTION IV – FIRE AND EXPLOSION HAZARD OF MATERIAL

FLAMMABILITY: YES NO <input checked="" type="checkbox"/> IF YES, UNDER WHICH CONDITIONS	
MEANS OF EXTINCTION: Not Applicable	SPECIAL PROCEDURES: Not Applicable

SECTION V – HEALTH HAZARDS

SUMMARY: Calcined diatomaceous earth (Kieselguhr) contains crystalline silica which is a known cause of silicosis, a progressive, sometimes fatal lung disease. In a 1997 monograph (Volume 68, "Silica, Some Silicates, Coal Dust and Para-Aramid Fibrils"), the International Agency of Research on Cancer (IARC) has classified "inhaled crystalline silica from occupational sources" in Group 1 as a substance "carcinogenic to humans." In making the overall evaluation, the IARC Working Group noted that carcinogenicity in humans was not detected in all industrial circumstances studied. Although the recent IARC determination was, in part, based on a 1992 study of diatomite workers, a 1996 follow up which was issued by the University of Washington and Tulane University was not available to the Working Group. The follow up study reported a Standardized Mortality Ration (SMR) of 2.01 for non-malignant respiratory disease (NMRD) and a SMR of 1.29 for lung cancer when compared to national and regional populations. This is a reduction of the levels reported in the 1992 report (SMR=2.59 for NMRD and SMR=1.43 for lung cancer.)

As noted in the 1992 study, relatively intense exposures to crystalline silica that occurred before the 1950s were probably the most important contributors in the excesses in NMRD and lung cancer. The 1996 report continues to support the conclusion that recent improvements in dust control in the industry appear to have abated any excess risk in silicosis or lung cancer in today's work environment. In 1997 a radiographic study was published by Tulane University researchers that reported X-ray opacities of the post-1950 hires that were "...consistent with the prevalences observed in many unexposed populations." These findings appear to be consistent with, and supportive, of current occupational exposure limits for cristobalite. A more detailed report discussing the IARC classification and the diatomite worker studies is available upon request.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Pre-existing diseases of the upper respiratory tract and lung such as bronchitis, emphysema, and asthma

IMPORTANT HEALTH HAZARD DATA CONTINUES ON THE SECOND PAGE (BACK)

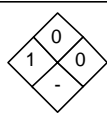
PAGE 2	MATERIAL NAME / IDENTIFIER: Floor Dry, Super Fine, Celatom MP grades														
SECTION V – HEALTH HAZARDS CONT'D															
ROUTE OF ENTRY:	Inhalation (Chronic)	TARGET ORGANS:	Lungs												
EFFECTS OF ACUTE EXPOSURE TO PRODUCT:	Upper respiratory irritant – May cause coughing or throat irritation.														
EFFECTS OF CHRONIC EXPOSURE TO PRODUCT:	<p>Inhalation of crystalline silica dust in excess of the Threshold Limit Value (TLV) recommended by the American Conference of Governmental Industrial Hygienists (ACGIH) or in excess of the Permissible Exposure Limit (PEL) established by OSHA over an extended number of years may cause silicosis, a progressive sometimes fatal lung disease. Although silicosis is a non-cancerous lung disease, a 1992 study conducted by the University of Washington on certain diatomite workers, and a 1996 follow-up to this study indicates that exposure to high concentrations of crystalline silica for many years may increase the potential risk of developing lung cancer. The 1996 follow-up study continues to support the findings of the 1992 study in that for those workers hired since 1960, no increase in lung cancer mortality risk was found. Consequently, maintenance of crystalline silica dust concentrations at or below levels specified by occupational standards setting agencies will minimize, if not eliminate, any potential excess risk of NMRD or lung cancer.</p> <p>IARC - "Inhaled crystalline silica from occupational sources" – Group 1 – Carcinogenic to humans NTP - "Silica, crystalline (respirable)" – "known to be a human carcinogen" OSHA - Has not classified crystalline silica as a carcinogen</p>														
SECTION VI – REACTIVITY DATA															
CHEMICAL STABILITY:	<table border="0"> <tr> <td>YES</td> <td>X</td> <td>NO</td> <td></td> </tr> </table>			YES	X	NO									
YES	X	NO													
	<table border="0"> <tr> <td>INCOMPATIBILITY TO OTHER SUBSTANCES</td> <td>YES</td> <td>X</td> <td>NO</td> </tr> <tr> <td>IF YES, WHICH ONES?</td> <td colspan="3">Hydrofluoric Acid</td> </tr> <tr> <td colspan="4">Products containing Silica may react violently with Hydrofluoric Acid</td> </tr> </table>			INCOMPATIBILITY TO OTHER SUBSTANCES	YES	X	NO	IF YES, WHICH ONES?	Hydrofluoric Acid			Products containing Silica may react violently with Hydrofluoric Acid			
INCOMPATIBILITY TO OTHER SUBSTANCES	YES	X	NO												
IF YES, WHICH ONES?	Hydrofluoric Acid														
Products containing Silica may react violently with Hydrofluoric Acid															
REACTIVITY AND UNDER WHAT CONDITIONS:	Not Applicable	HAZARDOUS DECOMPOSITION PRODUCTS:	Not Applicable												
SECTION VII – PRECAUTIONS FOR SAFE HANDLING AND USE															
PERSONAL PROTECTIVE EQUIPMENT:	<p>Respirators fitted with filters certified to standard 42CFR84 under series N95 should be worn when dust is present. If the dust concentration is less than ten (10) times the Permissible Exposure Limit (PEL) use a quarter or half-mask respirator with a N95 dust filter or a single use dust mask rated N95. If dust concentration is greater than ten (10) times and less than fifty (50) times the PEL, a full-face piece respirator fitted with replaceable N95 filters is recommended. If dust concentration is greater than fifty (50) and less than two hundred (200) times the PEL use a power air-purifying (positive pressure) respirator with a replaceable N95 filter. If dust concentration is greater than two hundred (200) times the PEL use a type C, supplied air respirator (continuous flow, positive pressure), with full face piece, hood or helmet.</p>														
GLOVES:	Not normally necessary	RESPIRATORY:	Note Above												
		EYE:	Goggles to protect from dust												
FOOTWEAR:	Not necessary	CLOTHING:	Not normally necessary												
ENGINEERING CONTROLS (E.G. VENTILATION, ENCLOSED PROCESS):	Local – Control within recommended TLV/PEL. Refer to ACGIH publication "Industrial Ventilation" or similar publications for design of ventilation systems.														
LEAK AND SPILL PROCEDURE:	Vacuum clean spillage, wet sweep or wash away. Avoid creating dust.														
WASTE DISPOSAL:	Non-Biodegradable. Use solid waste disposal common to landfill type operations or in slurry to sumps. Not considered a hazardous waste under RCRA (40CFR Part 261).														
HANDLING PROCEDURES:	Avoid creating dust. Repair or properly dispose of broken bags.														
STORAGE REQUIREMENTS:	Store in a dry place to maintain product quality.														
SPECIAL SHIPPING INSTRUCTIONS:	None														
SECTION VIII – FIRST AID MEASURES															
SKIN:	Not absorbed by the skin. May cause dryness. Use moisture renewing lotions if dryness occurs.														
EYE:	May cause irritation or inflammation. Wash with generous quantities of water. Consult physician if irritation persists.														
INHALATION:	Acute inhalation can cause dryness of the nasal passages and congestion of the upper respiratory tract. Remove to fresh air.														
INGESTION:	Short-term exposure not considered harmful. Drink generous amounts of water to reduce bulk and drying effects.														
SECTION IX – PREPARATION DATE OF M.S.D.S.															
PREPARED BY:	Patrick T. Flynn, Jr.	TITLE:	Director - Government Affairs												
PHONE NUMBER:	(775) 824-7650	DATE:	July 1, 2001												

MATERIAL SAFETY DATA SHEET

 **EAGLE – PICHER MINERALS, INC.**

DATE ISSUED: November 18, 1985	DATE REVISED: July 1, 2001	REVISION NO: 8
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SECTION I: MATERIAL IDENTIFICATION AND USE

MATERIAL NAME: Solid-A-Sorb I and Solid-A-Sorb ii	NFPA  4-Extreme 3-High 2-Moderate 1-Slight 0-Insignificant
MANUFACTURER'S NAME: Eagle-Picher Minerals, Inc.	
STREET ADDRESS: 9785 Gateway Drive, Suite 1000	
CITY: Reno STATE: Nevada ZIP: 89511	
EMERGENCY TELEPHONE NO: (775) 824-7600	HMSIS * Health 0 Flammability 0 Reactivity E Protective Equipment
CHEMICAL NAME: Diatomaceous Earth, Calcined	TRADE NAME: Solid-A-Sorb
CHEMICAL FAMILY: Silica	MATERIAL USE: Industrial Absorbent
* REFER TO DATA ON MSDS	

SECTION II: HAZARDOUS INGREDIENTS OF MATERIAL

INGREDIENT IDENTIFICATION	APPROXIMATE CONCENTRATION %	C.A.S. NUMBERS	OSHA PEL [ACGIH TLV]	LD50/ LC 50 SPECIES AND ROUTE
Diatomaceous Earth, Calcined	100%	91053-39-3	See below	Not available
Crystalline Silica (Cristobalite)	< 1%	14464-46-1	0.05 mg/m3 [0.05 mg/m3]	Not available
Crystalline Silica (Quartz)	< 1%	14808-60-7	0.10 mg/m3 [0.10 mg/m3]	Not available

For sampling silica dusts refer to NIOSH Analytical Method 7500 or OSHA method ID 142

SECTION III: PHYSICAL DATA FOR MATERIAL

PHYSICAL STATE: Solid	ODOR AND APPEARANCE: Odorless, granular product, buff to off-white	SPECIFIC GRAVITY: 2.2	BOILING POINT: Not Applicable
VAPOR PRESSURE (MM): Not Applicable	VAPOR DENSITY: Not applicable	pH: 7 (10% Slurry)	SOLUBILITY/WATER: < 2%
FREEZING POINT: Not Applicable			

SECTION IV – FIRE AND EXPLOSION HAZARD OF MATERIAL

FLAMMABILITY: YES NO X IF YES, UNDER WHICH CONDITIONS	
MEANS OF EXTINCTION: Not Applicable	SPECIAL PROCEDURES: Not Applicable

SECTION V – HEALTH HAZARDS

SUMMARY: Calcined diatomaceous earth (Kieselguhr) contains crystalline silica which is a known cause of silicosis, a progressive, sometimes fatal lung disease. In a 1997 monograph (Volume 68, "Silica, Some Silicates, Coal Dust and Para-Aramid Fibrils"), the International Agency of Research on Cancer (IARC) has classified "inhaled crystalline silica from occupational sources" in Group 1 as a substance "carcinogenic to humans." In making the overall evaluation, the IARC Working Group noted that carcinogenicity in humans was not detected in all industrial circumstances studied. Although the recent IARC determination was, in part, based on a 1992 study of diatomite workers, a 1996 follow up which was issued by the University of Washington and Tulane University was not available to the Working Group. The follow up study reported a Standardized Mortality Ratio (SMR) of 2.01 for non-malignant respiratory disease (NMRD) and a SMR of 1.29 for lung cancer when compared to national and regional populations. This is a reduction of the levels reported in the 1992 report (SMR=2.59 for NMRD and SMR=1.43 for lung cancer.)

As noted in the 1992 study, relatively intense exposures to crystalline silica that occurred before the 1950s were probably the most important contributors in the excesses in NMRD and lung cancer. The 1996 report continues to support the conclusion that recent improvements in dust control in the industry appear to have abated any excess risk in silicosis or lung cancer in today's work environment. In 1997 a radiographic study was published by Tulane University researchers that reported X-ray opacities of the post-1950 hires that were "...consistent with the prevalences observed in many unexposed populations." These findings appear to be consistent with, and supportive, of current occupational exposure limits for cristobalite. A more detailed report discussing the IARC classification and the diatomite worker studies is available upon request.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Pre-existing diseases of the upper respiratory tract and lung such as bronchitis, emphysema, and asthma

IMPORTANT HEALTH HAZARD DATA CONTINUES ON THE SECOND PAGE (BACK)

PAGE 2	MATERIAL NAME / IDENTIFIER: Solid-A-Sorb I and Solid-A-Sorb II	
SECTION V – HEALTH HAZARDS CONT'D		
ROUTE OF ENTRY: Inhalation (Chronic)	TARGET ORGANS: Lungs	
EFFECTS OF ACUTE EXPOSURE TO PRODUCT: Upper respiratory irritant – May cause coughing or throat irritation.		
EFFECTS OF CHRONIC EXPOSURE TO PRODUCT: <p>Inhalation of crystalline silica dust in excess of the Threshold Limit Value (TLV) recommended by the American Conference of Governmental Industrial Hygienists (ACGIH) or in excess of the Permissible Exposure Limit (PEL) established by OSHA over an extended number of years may cause silicosis, a progressive sometimes fatal lung disease. Although silicosis is a non-cancerous lung disease, a 1992 study conducted by the University of Washington on certain diatomite workers, and a 1996 follow-up to this study indicates that exposure to high concentrations of crystalline silica for many years may increase the potential risk of developing lung cancer. The 1996 follow-up study continues to support the findings of the 1992 study in that for those workers hired since 1960, no increase in lung cancer mortality risk was found. Consequently, maintenance of crystalline silica dust concentrations at or below levels specified by occupational standards setting agencies will minimize, if not eliminate, any potential excess risk of NMRD or lung cancer.</p> <p>IARC - "Inhaled crystalline silica from occupational sources" – Group 1 – Carcinogenic to humans NTP - "Silica, crystalline (respirable)" – "known to be a human carcinogen" OSHA - Has not classified crystalline silica as a carcinogen</p>		
SECTION VI – REACTIVITY DATA		
CHEMICAL STABILITY: YES X NO	INCOMPATIBILITY TO OTHER SUBSTANCES YES X NO IF YES, WHICH ONES? Hydrofluoric Acid, Hydrogenated vegetable oils Products containing Silica may react violently with Hydrofluoric Acid	
REACTIVITY AND UNDER WHAT CONDITIONS: Not Applicable	HAZARDOUS DECOMPOSITION PRODUCTS: Not Applicable	
SECTION VII – PRECAUTIONS FOR SAFE HANDLING AND USE		
PERSONAL PROTECTIVE EQUIPMENT: Respirators fitted with filters certified to standard 42CFR84 under series N95 should be worn when dust is present. If the dust concentration is less than ten (10) times the Permissible Exposure Limit (PEL) use a quarter or half-mask respirator with a N95 dust filter or a single use dust mask rated N95. If dust concentration is greater than ten (10) times and less than fifty (50) times the PEL, a full-face piece respirator fitted with replaceable N95 filters is recommended. If dust concentration is greater than fifty (50) and less than two hundred (200) times the PEL use a power air-purifying (positive pressure) respirator with a replaceable N95 filter. If dust concentration is greater than two hundred (200) times the PEL use a type C, supplied air respirator (continuous flow, positive pressure), with full face piece, hood or helmet.		
GLOVES: Not normally necessary	RESPIRATORY: Note Above	EYE: Goggles to protect from dust
FOOTWEAR: Not necessary	CLOTHING: Not normally necessary	
ENGINEERING CONTROLS (E.G. VENTILATION, ENCLOSED PROCESS): Local – Control within recommended TLV/PEL. Refer to ACGIH publication "Industrial Ventilation" or similar publications for design of ventilation systems.		
LEAK AND SPILL PROCEDURE: Vacuum clean spillage, wet sweep or wash away. Avoid creating dust.		
WASTE DISPOSAL: Non-Biodegradable. Use solid waste disposal common to landfill type operations or in slurry to sumps. Not considered a hazardous waste under RCRA (40CFR Part 261).		
HANDLING PROCEDURES: Avoid creating dust. Repair or properly dispose of broken bags.		
STORAGE REQUIREMENTS: Store in a dry place to maintain product quality.		
SPECIAL SHIPPING INSTRUCTIONS: None		
SECTION VIII – FIRST AID MEASURES		
SKIN: Not absorbed by the skin. May cause dryness. Use moisture renewing lotions if dryness occurs.		
EYE: May cause irritation or inflammation. Wash with generous quantities of water. Consult physician if irritation persists.		
INHALATION: Acute inhalation can cause dryness of the nasal passages and congestion of the upper respiratory tract. Remove to fresh air.		
INGESTION: Short-term exposure not considered harmful. Drink generous amounts of water to reduce bulk and drying effects.		
SECTION IX – PREPARATION DATE OF M.S.D.S.		
PREPARED BY: Patrick T. Flynn, Jr.	TITLE: Director - Government Affairs	
PHONE NUMBER: (775) 824-7650	DATE: July 1, 2001	